



#20

SEQUENCE LISTING

<110> Oncoimmunin, Inc.
Komoriya, Akira
Packard, Beverly

<120> COMPOSITIONS FOR THE DETECTION OF ENZYME ACTIVITY IN BIOLOGICAL
SAMPLES AND METHODS OF USE THEREOF

<130> 300-903840US

<140> US 09/874,350
<141> 2001-06-04

<150> PCT/US98/00300
<151> 1998-02-20

<150> PCT/US00/24882
<151> 2000-09-11

<150> US 09/394,019
<151> 1999-09-10

<150> US 08/802,981
<151> 1997-02-20

<160> 221

<170> PatentIn version 3.2

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Gly Tyr

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Lys Gly Tyr

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Gly Tyr

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Lys Gly Lys

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<222> (6)..(6)
<223> Xaa can be any naturally occurring amino acid

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<223> X is epsilon aminocaproic acid

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<400> 38

Lys Asp Xaa Xaa Gly Xaa Asp Glu Val Asp Gly Ile Asp Gly Xaa Pro
1 5 10 15

Lys Gly Tyr

<210> 39
<211> 19
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<223> Xaa can be any naturally occurring amino acid

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<223> X is epsilon aminocaproic acid

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<223> Xaa can be any naturally occurring amino acid

<400> 39

Lys Asp Xaa Xaa Gly Trp Asp Glu Val Asp Gly Ile Asp Gly Xaa Pro
1 5 10 15

Lys Gly Tyr

<210> 40

<211> 19

<212> PRT

<213> Artificial

<220>

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<223> W is D form

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<400> 40

Lys Asp Xaa Xaa Gly Trp Asp Glu Val Asp Gly Ile Asp Gly Xaa Pro
1 5 10 15

Lys Gly Tyr

<210> 41
<211> 20
<212> PRT
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<220>
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 <223> Xaa can be any naturally occurring amino acid

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 <223> X is epsilon aminocaproic acid

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 <223> Xaa can be any naturally occurring amino acid

<400> 41

Lys	Asp	Xaa	Xaa	Gly	Xaa	Xaa	Asp	Glu	Val	Asp	Gly	Ile	Asp	Gly	Xaa
1				5					10					15	

Pro	Lys	Gly	Tyr
			20

<210> 42
 <211> 20
 <212> PRT
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<222> (6)..(7)
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<400> 42

Lys Asp Xaa Xaa Gly Trp Trp Asp Glu Val Asp Gly Ile Asp Gly Xaa
1 5 10 15

Pro Lys Gly Tyr
20

<210> 43
<211> 14
<212> PRT
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<400> 43

Lys Asp Xaa Tyr Val Ala Asp Gly Ile Asp Pro Lys Gly Tyr
1 5 10

<210> 44
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<400> 44

Lys Asp Xaa Tyr Val Ala Asp Gly Ile Asn Pro Lys Gly Tyr
1 5 10

<210> 45
<211> 14
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<400> 45

Lys Asp Xaa Tyr Val Ala Asn Gly Ile Asn Pro Lys Gly Tyr
1 5 10

<210> 46
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 <400> 46

Lys	Asp	Xaa	Gly	Tyr	Val	Ala	Asp	Gly	Ile	Asp	Gly	Pro	Lys	Gly	Tyr
1				5					10					15	

<210> 47
 <211> 16
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 <400> 47

Lys	Asp	Xaa	Gly	Tyr	Val	Ala	Asp	Gly	Ile	Asn	Gly	Pro	Lys	Gly	Tyr
1				5					10					15	

<210> 48
 <211> 16
 <212> PRT

 <213> Artificial

<220>
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<220>
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 <222> (3)..(3)
 <223> Xaa can be any naturally occurring amino acid

<400> 48

Lys Asp Xaa Gly Tyr Val Ala Asn Gly Ile Asn Gly Pro Lys Gly Tyr
1 5 10 15

<210> 49

<211> 18

<212> PRT

<213> Artificial

<220>

<223> Synthetic peptide substrate

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<222> (3)..(4)

<223> Xaa can be any naturally occurring amino acid

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<223> X is epsilon aminocaproic acid

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<222> (14)..(14)

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<221> misc_feature

<222> (14)..(14)

<223> Xaa can be any naturally occurring amino acid

<400> 49

Lys Asp Xaa Xaa Gly Tyr Val Ala Asp Gly Ile Asp Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 50

<211> 18

<212> PRT

<213> Artificial

<220>
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<220>
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<222> (14)..(14)
<223> Xaa can be any naturally occurring amino acid

<400> 50

Lys Asp Xaa Xaa Gly Tyr Val Ala Asn Gly Ile Asp Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 51

<211> 18
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<220>
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<222> (14)..(14)
<223> Xaa can be any naturally occurring amino acid

<400> 51

Lys Asp Xaa Xaa Gly Tyr Val Ala Asn Gly Ile Asn Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 52
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<220>
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<400> 52

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1 5 10 15

Gly Tyr

<210> 53
<211> 18
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<400> 53

Lys Asp Xaa Xaa Gly Tyr Val Ala Asp Gly Ile Asn Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 54
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<220>
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<222> (14)..(14)
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<400> 54

Lys Asp Xaa Xaa Gly Tyr Val Ala Asp Gly Ile Asn Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 55
<211> 14
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<220>
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<220>
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<400> 55

Lys Asp Xaa Tyr Val His Asp Ala Pro Val Pro Lys Gly Tyr
1 5 10

<210> 56
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<220>
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<220>
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<400> 56

Lys Asp Xaa Tyr Val His Asp Ala Pro Val Pro Lys Gly Tyr
1 5 10

<210> 57
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<220>
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<400> 57

Lys Asp Xaa Tyr Val His Asp Ala Pro Val Pro Lys Gly Tyr
1 5 10

<210> 58
<211> 16
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<400> 58

Lys Asp Xaa Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly Tyr
1 5 10 15

<210> 59

<211> 16

<212> PRT

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<220>

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<400> 59

Lys Asp Xaa Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly Tyr
1 5 10 15

<210> 60

<211> 16

<212> PRT

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<220>

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<400> 60

Lys Asp Xaa Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly Tyr
1 5 10 15

<210> 61

<211> 17

<212> PRT

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<220>
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<222> (4)..(4)
<223> Xaa is episilon-aminocaproic acid

<400> 61

Lys Asp Xaa Xaa Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly
1 5 10 15

Tyr

<210> 62
<211> 17
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<220>
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<222> (4)..(4)
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<400> 62

Lys Asp Xaa Xaa Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly
1 5 10 15

Tyr

<210> 63
<211> 17
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<222> (4)..(4)
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<400> 63

Lys Asp Xaa Xaa Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly
1 5 10 15

Tyr

<210> 64
<211> 17
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<222> (4)..(4)
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<400> 64

Lys Asp Xaa Xaa Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly
1 5 10 15

Tyr

<210> 65
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<220>
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<400> 65

Lys	Asp	Xaa	Xaa	Gly	Tyr	Val	His	Asp	Ala	Pro	Val	Gly	Pro	Lys	Gly
1				5					10					15	

Tyr

<210> 66
<211> 18
<212> PRT
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<220>
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<400> 66

Lys	Asp	Xaa	Xaa	Gly	Asp	Tyr	Val	His	Asp	Ala	Pro	Val	Gly	Pro	Lys
1				5					10					15	

Gly Tyr

<210> 67
<211> 17
<212> PRT

<213> Artificial

<220>

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<220>

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<223> K is blocked with Fmoc

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<222> (4)..(4)

<223> X is epsilon aminocaproic acid

<220>

<221> misc_feature

<222> (4)..(4)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> MOD_RES

<222> (13)..(13)

<223> X is epsilon-aminocaproic acid

<220>

<221> misc_feature

<222> (13)..(13)

<223> Xaa can be any naturally occurring amino acid

<400> 67

Lys Asp Pro Xaa Gly Leu Val Glu Ile Asp Asn Gly Xaa Pro Lys Gly

1

5

10

15

Tyr

<210> 68

<211> 17

<212> PRT

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<223> Synthetic peptide substrate

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<221> misc_feature
<222> (13)..(13)
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<400> 68

Lys Asp Pro Xaa Gly Leu Val Glu Ile Glu Asn Gly Xaa Pro Lys Gly
1 5 10 15

Tyr

<210> 69
<211> 14
<212> PRT
<213> Artificial

<220>
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<221> MOD_RES
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<220>
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<222> (3)..(3)
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<400> 69

Lys Asp Xaa Leu Val Glu Ile Asp Asn Gly Pro Lys Gly Tyr
1 5 10

<210> 70

<211> 16
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<220>
<221> misc_feature
<222> (3)..(3)
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<400> 70

Lys Asp Xaa Gly Leu Val Glu Ile Asp Asn Gly Gly Pro Lys Gly Tyr
1 5 10 15

<210> 71
<211> 18
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<220>
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<222> (14)..(14)

<223> Xaa can be any naturally occurring amino acid

<400> 71

Lys Asp Xaa Xaa Gly Leu Val Glu Ile Asp Asn Gly Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 72

<211> 18

<212> PRT

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<220>

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<222> (14)..(14)

<223> Xaa can be any naturally occurring amino acid

<400> 72

Lys Asp Xaa Xaa Gly Leu Val Glu Ile Asn Asn Gly Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

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<210> 73
<211> 18
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<223> X is epsilon-aminocaproic acid

<220>
<221> misc_feature
<222> (14)..(14)
<223> Xaa can be any naturally occurring amino acid

<400> 73

Lys Asp Pro Xaa Gly Ile Glu Thr Glu Ser Gly Val Gly Xaa Pro Lys
1          5          10          15

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Gly Tyr

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<210> 74
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 <400> 74

Lys	Asp	Pro	Xaa	Gly	Ile	Glu	Thr	Asp	Ser	Gly	Xaa	Pro	Lys	Gly	Tyr
1				5					10					15	

<210> 75
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<222> (12)..(12)

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<400> 75

Lys Asp Pro Xaa Gly Ile Glu Thr Glu Ser Gly Xaa Pro Lys Gly Tyr
1 5 10 15

<210> 76

<211> 17

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<220>

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<220>

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<400> 76

Lys Asp Xaa Gly Ile Glu Thr Asp Ser Gly Val Asp Asp Pro Lys Gly
1 5 10 15

Tyr

<210> 77

<211> 17

<212> PRT

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<223> X is Aib

<220>
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<400> 77

Lys Asp Xaa Gly Ile Glu Thr Asn Ser Gly Val Asp Asp Pro Lys Gly
1 . 5 10 15

Tyr

<210> 78
<211> 19
<212> PRT
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<220>
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<400> 78

Lys Asp Xaa Gly Gly Ile Glu Thr Asp Ser Gly Val Asp Asp Gly Pro
1 5 10 15

Lys Gly Tyr

<210> 79
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<400> 79

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Tyr

<210> 80

<211> 17

<212> PRT

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Tyr

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<400> 81

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Tyr

<210> 82
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<400> 82

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Lys Gly Tyr

<210> 83

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<400> 83

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Lys Gly Tyr

<210> 84

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Lys Gly Tyr

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Tyr

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Lys Gly Tyr

<210> 87

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Lys Gly Tyr

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<400> 88

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Lys Gly Tyr

<210> 89
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<400> 89

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Lys Gly Tyr

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<400> 90

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Lys Gly Tyr

<210> 91
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1 5 10 15

Lys Gly Tyr

<210> 92
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<400> 92

Lys	Asp	Xaa	Xaa	Gly	Glu	Asp	Val	Val	Cys	Cys	Ser	Gly	Xaa	Pro	Lys
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Gly Tyr

<210> 93
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<400> 93

Lys	Asp	Xaa	Xaa	Gly	Glu	Asp	Val	Val	Cys	Asp	Ser	Gly	Xaa	Pro	Lys
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Gly Tyr

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Lys Asp Xaa Xaa Gly Glu Asp Val Val Cys Cys Pro Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

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Gly Tyr

<210> 96

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<400> 96

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Lys Asp Xaa Xaa Gly Asp Val Val Cys Cys Ser Met Ser Gly Xaa Pro
1          5          10         15

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Lys Gly Tyr

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<210> 97
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Lys Gly Tyr

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Lys Gly Tyr

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Lys Gly Tyr

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Gly Tyr

<210> 109
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Lys	Asp	Xaa	Xaa	Gly	Glu	Met	Glu	Glu	Cys	Ser	Gln	His	Leu	Gly	Pro
1				5					10					15	

Lys Gly Tyr

<210> 110

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Lys Gly Tyr

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<223> Xaa can be any naturally occurring amino acid

<220>
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<400> 111

Lys Asp Xaa Xaa Gly Glu Met Glu Glu Asp Ser Gln His Leu Gly Pro
1 5 10 15

Lys Gly Tyr

<210> 112

<211> 20

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<223> Xaa can be any naturally occurring amino acid

<400> 112

Lys Asp Xaa Xaa Gly Glu Met Glu Glu Cys Ser Gln His Leu Gly Xaa
1 5 10 15

Pro Lys Gly Tyr
20

<210> 113
<211> 20
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<400> 113

Lys Asp Xaa Xaa Gly Glu Met Glu Glu Cys Pro Gln His Leu Gly Xaa
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Pro Lys Gly Tyr
20

<210> 114
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<223> Xaa can be any naturally occurring amino acid

<400> 114

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Pro	Lys	Gly	Tyr
			20

<210> 115

<211> 17

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<400> 115

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1 5 10 15

Tyr

<210> 116
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 <400> 116

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Thr Gly Xaa Pro Lys Gly
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Tyr

<210> 117
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<400> 117

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Thr Gly Xaa Pro Lys Gly
 1 5 10 15

Tyr

<210> 118
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<220>
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<400> 118

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Thr Gly Xaa Pro Lys Gly
1 5 10 15

Tyr

<210> 119
<211> 16
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<400> 119

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Gly Xaa Pro Lys Gly Tyr
1 5 10 15

<210> 120
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<220>
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<400> 120

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1 5 10 15

Tyr

<210> 121
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<223> Xaa can be any naturally occurring amino acid

<400> 121

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Gly Gly Xaa Pro Lys Gly
1 5 10 15

Tyr

<210> 122

<211> 8

<212> PRT

<213> Artificial

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<220>

<221> misc_feature

<222> (4)..(4)

<223> Xaa can be any naturally occurring amino acid

<400> 122

Lys Asp Pro Xaa Thr Gly Arg Thr
1 5

<210> 123

<211> 11

<212> PRT

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<220>

<223> Synthetic peptide substrate

<220>

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<223> D is blocked with Fmoc

<400> 123

Asp Pro Thr Gly Arg Thr Gly Pro Lys Gly Tyr
1 5 10

<210> 124

<211> 15

<212> PRT

<213> Artificial

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<222> (11)..(11)

<223> X is epsilon-aminocaproic acid

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<222> (11)..(11)

<223> Xaa can be any naturally occurring amino acid

<400> 124

Lys Asp Pro Val Met Thr Gly Arg Thr Gly Xaa Pro Lys Gly Tyr
1 5 10 15

<210> 125

<211> 13

<212> PRT

<213> Artificial

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<223> K is blocked with Fmoc

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<222> (9)..(9)

<223> X is epsilon-aminocaproic acid

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 <222> (9)..(9)
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 <400> 125

Lys Asp Pro Thr Gly Arg Thr Gly Xaa Pro Lys Gly Tyr
 1 5 10

<210> 126
 <211> 15
 <212> PRT
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<220>
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<400> 126

Lys Asp Pro Xaa Gly Thr Gly Arg Thr Gly Xaa Pro Lys Gly Tyr
 1 5 10 15

<210> 127
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<400> 127

Lys Asp Pro Xaa Gly Thr Gly Arg Thr Gly Pro Lys Gly Tyr
1 5 10

<210> 128

<211> 13

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<223> K is blocked with Fmoc

<400> 128

Lys Asp Pro Gly Thr Gly Arg Thr Gly Pro Lys Gly Tyr
1 5 10

<210> 129

<211> 14

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 <400> 129

Lys Asp Pro Xaa Thr Gly Arg Thr Gly Xaa Pro Lys Gly Tyr
 1 5 10

<210> 130
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<400> 130

Lys Asp Pro Xaa Thr Gly Arg Thr Gly Pro Lys Gly Tyr
 1 5 10

<210> 131
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 <223> Xaa can be any naturally occurring amino acid

<400> 131

Lys	Asp	Pro	Xaa	Thr	Gly	Arg	Thr	Gly	Pro	Lys	Gly	Tyr
1				5					10			

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 <223> Xaa can be any naturally occurring amino acid

<400> 132

Lys	Asp	Xaa	Xaa	Gly	Val	Met	Thr	Gly	Arg	Val	Gly	Xaa	Pro	Lys	Gly
1				5					10					15	

Tyr

<210> 133
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<222> (13)..(13)
<223> Xaa can be any naturally occurring amino acid

<400> 133

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Val Gly Xaa Pro Lys Gly
1 5 10 15

Tyr

<210> 134

<211> 17
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<400> 134

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Ala Gly Xaa Pro Lys Gly
1 5 10 15

Tyr

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<400> 135

Lys Asp Xaa Xaa Gly Val Met Thr Gly Arg Ala Gly Xaa Pro Lys Gly
 1 5 10 15

Tyr

<210> 136

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<400> 136

Lys	Asp	Pro	Xaa	Gly	Ser	Glu	Val	Lys	Leu	Asp	Ala	Glu	Phe	Gly	Xaa
1				5				10						15	

Pro	Lys	Gly	Tyr	Gly	Xaa	Pro	Lys	Gly	Tyr
			20					25	

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<400> 137

Lys Asp Pro Xaa Gly Ser Glu Val Lys Leu Asp Ala Glu Phe Gly Xaa
1 5 10 15

Pro Lys Gly Tyr
20

<210> 138
<211> 20
<212> PRT
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<400> 138

Lys Asp Pro Xaa Gly Ser Glu Val Lys Leu Asp Ala Glu Phe Gly Xaa
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Pro Lys Gly Tyr
20

<210> 139

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Pro Lys Asp Asp Tyr
 20

<210> 140
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Pro Lys Asp Asp Tyr
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<400> 141

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Pro Lys Asp Asp Tyr
20

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Pro Lys Asp Asp Tyr
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<210> 143
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<223> X is episilon-aminocaproic acid

<220>
<221> misc_feature
<222> (16)..(16)
<223> Xaa can be any naturally occurring amino acid

<400> 143

Lys Asp Xaa Xaa Gly Ser Glu Val Asn Leu Asp Asp Glu Phe Gly Xaa
1 5 10 15

Pro Lys Asp Asp Tyr
20

<210> 144
<211> 23
<212> PRT
<213> Artificial

<220>
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<220>
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<220>
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<222> (3)..(4)
<223> Xaa can be any naturally occurring amino acid

<220>
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<223> X is epsilon aminocaproic acid

<220>
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<222> (18)..(18)
<223> X is episilon-aminocaproic acid

<220>
<221> misc_feature
<222> (18)..(18)
<223> Xaa can be any naturally occurring amino acid

<400> 144

Lys Asp Xaa Xaa Gly Gly Val Val Ile Ala Thr Val Ile Val Ile Thr
1 5 10 15

Gly Xaa Pro Lys Asp Asp Tyr
20

<210> 145
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
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<220>
<221> misc_feature
<222> (3)..(4)
<223> Xaa can be any naturally occurring amino acid

<220>
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<223> X is epsilon aminocaproic acid

<220>
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<222> (19)..(19)
<223> X is episilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (19)..(19)
 <223> Xaa can be any naturally occurring amino acid

<400> 145

Lys Asp Xaa Xaa Gly Tyr Gly Val Val Ile Ala Thr Val Ile Val Ile
 1 5 10 15

Thr Gly Xaa Pro Lys Asp Asp Tyr
 20

<210> 146
 <211> 18
 <212> PRT
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<220>
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<220>
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<220>
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 <223> Xaa can be any naturally occurring amino acid

<220>
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 <223> X is epsilon aminocaproic acid

<220>
 <221> MOD_RES
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 <223> X is epsilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (13)..(13)
 <223> Xaa can be any naturally occurring amino acid

<400> 146

Lys Asp Xaa Xaa Gly Val Ile Ala Thr Val Ile Gly Xaa Pro Lys Asp
 1 5 10 15

Asp Tyr

<210> 147
<211> 18
<212> PRT
<213> Artificial

<220>

<223> Synthetic peptide substrate

<220>

<221> MOD_RES
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<223> X is Aib

<220>

<221> misc_feature
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<223> Xaa can be any naturally occurring amino acid

<220>

<221> MOD_RES
<222> (4)..(4)
<223> X is epsilon aminocaproic acid

<220>

<221> MOD_RES
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<223> X is episilon-aminocaproic acid

<220>

<221> misc_feature
<222> (13)..(13)
<223> Xaa can be any naturally occurring amino acid

<400> 147

Lys Asp Xaa Xaa Asx Tyr Gly Val Val Ile Ala Gly Xaa Pro Lys Asp
1 5 10 15

Asp Tyr

<210> 148
<211> 15
<212> PRT
<213> Artificial

<220>

<223> Synthetic peptide substrate

<220>

<221> MOD_RES

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<223> X is Aib

<220>

<221> misc_feature

<222> (3)..(5)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> MOD_RES

<222> (4)..(5)

<223> X is epsilon aminocaproic acid

<220>

<221> MOD_RES

<222> (12)..(13)

<223> X is episilon-aminocaproic acid

<220>

<221> misc_feature

<222> (12)..(13)

<223> Xaa can be any naturally occurring amino acid

<400> 148

Lys Asp Xaa Xaa Xaa Gln Gln Leu Leu His Asn Xaa Xaa Pro Lys
1 5 10 15

<210> 149

<211> 15

<212> PRT

<213> Artificial

<220>

<223> Synthetic peptide substrate

<220>

<221> MOD_RES

<222> (3)..(3)

<223> X is Aib

<220>

<221> misc_feature

<222> (3)..(4)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> MOD_RES

<222> (4)..(4)

<223> X is epsilon aminocaproic acid

<220>

<221> MOD_RES

<222> (13)..(13)

<223> X is episilon-aminocaproic acid

<220>

<221> misc_feature

<222> (13)..(13)

<223> Xaa can be any naturally occurring amino acid

<400> 149

Lys	Asp	Xaa	Xaa	Gly	Gln	Gln	Leu	Leu	His	Asn	Gly	Xaa	Pro	Lys
1				5					10					15

<210> 150

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Synthetic peptide substrate

<220>

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<223> X is Aib

<220>

<221> misc_feature

<222> (3)..(3)

<223> Xaa can be any naturally occurring amino acid

<400> 150

Lys	Asp	Xaa	Gly	Gln	Gln	Leu	Leu	His	Asn	Gly	Pro	Lys
1				5					10			

<210> 151

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Synthetic peptide substrate

<220>

<221> MOD_RES

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<223> X is Aib

<220>
 <221> misc_feature
 <222> (3)..(3)
 <223> Xaa can be any naturally occurring amino acid

<400> 151

Lys Asp Xaa Gln Gln Leu Leu His Asn Pro Lys
 1 5 10

<210> 152
 <211> 15
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic peptide substrate

<220>
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 <223> X is Aib

<220>
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 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MOD_RES
 <222> (4)..(5)
 <223> X is epsilon aminocaproic acid

<220>
 <221> MOD_RES
 <222> (12)..(13)
 <223> X is epsilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (12)..(13)
 <223> Xaa can be any naturally occurring amino acid

<400> 152

Lys Asp Xaa Xaa Xaa Ser Ile Gln Tyr Thr Tyr Xaa Xaa Pro Lys
 1 5 10 15

<210> 153
 <211> 15
 <212> PRT
 <213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
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<223> X is Aib

<220>
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<222> (3)..(4)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> X is epsilon aminocaproic acid

<220>
<221> MOD_RES
<222> (13)..(13)
<223> X is episilon-aminocaproic acid

<220>
<221> misc_feature
<222> (13)..(13)
<223> Xaa can be any naturally occurring amino acid

<400> 153

Lys	Asp	Xaa	Xaa	Gly	Ser	Ile	Gln	Tyr	Thr	Tyr	Gly	Xaa	Pro	Lys
1				5					10					15

<210> 154
<211> 13
<212> PRT
<213> Artificial

<220>
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<220>
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<223> X is Aib

<220>
<221> misc_feature
<222> (3)..(3)
<223> Xaa can be any naturally occurring amino acid

<400> 154

Lys Asp Xaa Gly Ser Ile Gln Tyr Thr Tyr Gly Pro Lys
1 5 10

<210> 155
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
<221> MOD_RES
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<223> X is Aib

<220>
<221> misc_feature
<222> (3)..(3)
<223> Xaa can be any naturally occurring amino acid

<400> 155

Lys Asp Xaa Ser Ile Gln Tyr Thr Tyr Pro Lys
1 5 10

<210> 156
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
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<223> X is Aib

<220>
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<222> (3)..(5)
<223> Xaa can be any naturally occurring amino acid

<220>
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<223> X is epsilon aminocaproic acid

<220>
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<222> (12)..(13)
<223> X is epsilon-aminocaproic acid

<220>
<221> misc_feature
<222> (12)..(13)
<223> Xaa can be any naturally occurring amino acid

<400> 156

Lys Asp Xaa Xaa Xaa Ser Ser Gln Tyr Ser Asn Xaa Xaa Pro Lys
1 5 10 15

<210> 157
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
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<220>
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<223> Xaa can be any naturally occurring amino acid

<220>
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<223> X is epsilon aminocaproic acid

<220>
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<223> X is epsilon-aminocaproic acid

<220>
<221> misc_feature
<222> (13)..(13)
<223> Xaa can be any naturally occurring amino acid

<400> 157

Lys Asp Xaa Xaa Gly Ser Ser Gln Tyr Ser Asn Gly Xaa Pro Lys
1 5 10 15

<210> 158
<211> 13

<212> PRT
 <213> Artificial

 <220>
 <223> Synthetic peptide substrate

 <220>
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 <223> X is Aib

 <220>
 <221> misc_feature
 <222> (3)..(3)
 <223> Xaa can be any naturally occurring amino acid

 <400> 158

Lys Asp Xaa Gly Ser Ser Gln Tyr Ser Asn Gly Pro Lys
 1 5 10

<210> 159
 <211> 11
 <212> PRT
 <213> Artificial

 <220>
 <223> Synthetic peptide substrate

<220>
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 <223> X is Aib

 <220>
 <221> misc_feature
 <222> (3)..(3)
 <223> Xaa can be any naturally occurring amino acid

 <400> 159

Lys Asp Xaa Ser Ser Gln Tyr Ser Asn Pro Lys
 1 5 10

<210> 160
 <211> 15
 <212> PRT
 <213> Artificial

 <220>
 <223> Synthetic peptide substrate

<220>
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 <223> X is Aib

<220>
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 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MOD_RES
 <222> (4)..(5)
 <223> X is epsilon aminocaproic acid

<220>
 <221> MOD_RES
 <222> (12)..(13)
 <223> X is episilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (12)..(13)
 <223> Xaa can be any naturally occurring amino acid

<400> 160

Lys	Asp	Xaa	Xaa	Xaa	Ser	Ser	Ile	Tyr	Ser	Gln	Xaa	Xaa	Pro	Lys
1				5					10					15

<210> 161
 <211> 15
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic peptide substrate

<220>
 <221> MOD_RES
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 <223> X is Aib

<220>
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 <222> (3)..(4)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <223> X is epsilon aminocaproic acid

<220>
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<222> (13)..(13)
<223> X is epsilon-aminocaproic acid

<220>
<221> misc_feature
<222> (13)..(13)
<223> Xaa can be any naturally occurring amino acid

<400> 161

Lys Asp Xaa Xaa Gly Ser Ser Ile Tyr Ser Gln Gly Xaa Pro Lys
1 5 10 15

<210> 162
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
<221> MOD_RES
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<223> X is Aib

<220>
<221> misc_feature ,
<222> (3)..(3)
<223> Xaa can be any naturally occurring amino acid

<400> 162

Lys Asp Xaa Gly Ser Ser Ile Tyr Ser Gln Gly Pro Lys
1 5 10

<210> 163
<211> 11
<212> PRT

<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
<221> MOD_RES
<222> (3)..(3)
<223> X is Aib

<220>
 <221> misc_feature
 <222> (3)..(3)
 <223> Xaa can be any naturally occurring amino acid

<400> 163

Lys Asp Xaa Ser Ser Ile Tyr Ser Gln Pro Lys
 1 5 10

<210> 164
 <211> 20
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic peptide substrate

<220>
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 <222> (1)..(1)
 <223> K is blocked with Fmoc

<220>
 <221> MOD_RES
 <222> (4)..(4)
 <223> X is epsilon aminocaproic acid

<220>
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 <222> (4)..(4)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <223> X is epsilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (16)..(16)
 <223> Xaa can be any naturally occurring amino acid

<400> 164

Lys Asp Pro Xaa Gly Ser Glu Val Asn Leu Asp Ala Glu Phe Gly Xaa
 1 5 10 15

Pro Lys Gly Tyr
 20

<210> 165
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
<221> MOD_RES
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<223> K is blocked with Fmoc

<220>
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<222> (4)..(4)
<223> X is epsilon aminocaproic acid

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> X is epsilon-aminocaproic acid

<220>
<221> misc_feature
<222> (14)..(14)
<223> Xaa can be any naturally occurring amino acid

<400> 165

Lys Asp Pro Xaa Gly Leu Glu His Asp Gly Ile Asn Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 166
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
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<222> (1)..(1)
 <223> K is blocked with Fmoc

 <220>
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 <222> (4)..(4)
 <223> X is epsilon aminocaproic acid

 <220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa can be any naturally occurring amino acid

 <220>
 <221> MOD_RES
 <222> (14)..(14)
 <223> X is episilon-aminocaproic acid

 <220>
 <221> misc_feature
 <222> (14)..(14)
 <223> Xaa can be any naturally occurring amino acid

 <400> 166

Lys Asp Pro Xaa Gly Leu Glu Thr Asp Gly Ile Asn Gly Xaa Pro Lys
 1 5 10 15

Gly Tyr

<210> 167
 <211> 18
 <212> PRT
 <213> Artificial

 <220>
 <223> Synthetic peptide substrate

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> K is blocked with Fmco

 <220>
 <221> MOD_RES
 <222> (4)..(4)
 <223> X is epsilon aminocaproic acid

 <220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MOD_RES
 <222> (14)..(14)
 <223> X is epsilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (14)..(14)
 <223> Xaa can be any naturally occurring amino acid

<400> 167

Lys	Asp	Pro	Xaa	Gly	Trp	Glu	His	Asp	Gly	Ile	Asn	Gly	Xaa	Pro	Lys
1				5					10					15	

Gly Tyr

<210> 168
 <211> 15
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic peptide substrate

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> K is blocked with Fmoc

<220>
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 <222> (4)..(4)
 <223> X is epsilon aminocaproic acid

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MOD_RES
 <222> (11)..(11)
 <223> X is epsilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (11)..(11)
 <223> Xaa can be any naturally occurring amino acid

<400> 168

Lys Asp Pro Xaa Gly Tyr Val His Asp Gly Xaa Pro Lys Gly Tyr
 1 5 10 15

<210> 169
 <211> 18
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic peptide substrate

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> K is blocked with Fmoc

<220>
 <221> MOD_RES
 <222> (4)..(4)
 <223> X is epsilon aminocaproic acid

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MOD_RES
 <222> (14)..(14)
 <223> X is episilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (14)..(14)
 <223> Xaa can be any naturally occurring amino acid

<400> 169

Lys Asp Pro Xaa Gly Tyr Val His Asp Gly Ile Asn Gly Xaa Pro Lys
 1 5 10 15

Gly Tyr

<210> 170
 <211> 18
 <212> PRT
 <213> Artificial

<220>

<223> Protease indicator

<220>

<221> misc_feature

<222> (4)..(4)

<223> Xaa is episilon aminocaproic acid (Ahx)

<220>

<221> misc_feature

<222> (14)..(14)

<223> Xaa is episilon aminocaproic acid (Ahx)

<400> 170

Lys Asp Pro Xaa Gly Tyr Val His Asp Ala Pro Val Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 171

<211> 18

<212> PRT

<213> Artificial

<220>

<223> Protease indicator

<220>

<221> misc_feature

<222> (4)..(4)

<223> Xaa is episilon aminocaproic acid (Ahx)

<220>

<221> misc_feature

<222> (14)..(14)

<223> Xaa is episilon aminocaproic acid (Ahx)

<400> 171

Lys Asp Pro Xaa Gly Tyr Val His Asp Ala Pro Val Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 172

<211> 16

<212> PRT

<213> Artificial

<220>
<223> Protease indicator

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa is episilon aminocaproic acid (Ahx)

<220>
<221> misc_feature
<222> (12)..(12)
<223> Xaa is episilon aminocaproic acid (Ahx)

<400> 172

Lys	Asp	Pro	Xaa	Val	His	Asp	Ala	Pro	Val	Gly	Xaa	Pro	Lys	Gly	Tyr
1				5					10					15	

<210> 173
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Protease indicator

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa is episilon aminocaproic acid (Ahx)

<220>
<221> misc_feature
<222> (12)..(12)
<223> Xaa is episilon aminocaproic acid (Ahx)

<400> 173

Lys	Asp	Pro	Xaa	Gly	Tyr	Val	His	Asp	Ala	Gly	Xaa	Pro	Lys	Gly	Tyr
1				5					10					15	

<210> 174
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>

<221> MOD_RES
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<223> K is blocked with Fmoc

<220>
<221> MOD_RES
<222> (4)..(4)
<223> X is epsilon aminocaproic acid

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MOD_RES
<222> (12)..(12)
<223> X is episilon-aminocaproic acid

<220>
<221> misc_feature
<222> (12)..(12)
<223> Xaa can be any naturally occurring amino acid

<400> 174

Lys Asp Pro Xaa Gly Ile Glu Pro Asp Ser Gly Xaa Pro Lys Gly Tyr
1 5 10 15

<210> 175
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide substrate

<220>
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<222> (1)..(1)
<223> K is blocked with Fmoc

<220>
<221> MOD_RES
<222> (4)..(4)
<223> X is epsilon aminocaproic acid

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MOD_RES

<222> (14)..(14)
 <223> X is epsilon-aminocaproic acid

 <220>
 <221> misc_feature
 <222> (14)..(14)
 <223> Xaa can be any naturally occurring amino acid

 <400> 175

Lys Asp Pro Xaa Gly Pro Leu Gly Ile Ala Gly Ile Gly Xaa Pro Lys
 1 5 10 15

Gly Tyr

<210> 176
 <211> 19
 <212> PRT
 <213> Artificial

 <220>
 <223> Synthetic peptide substrate

<220>
 <221> MOD_RES
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 <223> K is blocked with Fmoc

<220>
 <221> MOD_RES
 <222> (4)..(4)
 <223> X is epsilon aminocaproic acid

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <223> X is epsilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (15)..(15)
 <223> Xaa can be any naturally occurring amino acid

<400> 176

Lys Asp Pro Xaa Gly Ser Gln Asn Tyr Pro Ile Val Gln Gly Xaa Pro

1 5 10 15

Lys Gly Tyr

<210> 177
 <211> 18
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic peptide substrate

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> K is blocked with Fa

<220>
 <221> MOD_RES
 <222> (4)..(4)
 <223> X is epsilon aminocaproic acid

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MOD_RES
 <222> (14)..(14)
 <223> X is episilon-aminocaproic acid

<220>
 <221> misc_feature
 <222> (14)..(14)
 <223> Xaa can be any naturally occurring amino acid

<400> 177

Lys Asp Pro Xaa Gly Glu Asp Val Val Cys Cys Ser Gly Xaa Pro Lys
 1 5 10 15

Gly Tyr

<210> 178
 <211> 10
 <212> PRT
 <213> Artificial

<220>
<223> Peptide spacer

<400> 178

Asp Gly Ser Gly Gly Gly Glu Asp Glu Lys
1 5 10

<210> 179
<211> 7
<212> PRT
<213> Artificial

<220>
<223> peptide spacer

<400> 179

Lys Glu Asp Gly Gly Asp Lys
1 5

<210> 180
<211> 8
<212> PRT
<213> Artificial

<220>
<223> Peptide spacer

<220>
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<222> (1)..(8)
<223> Spacer

<400> 180

Asp Gly Ser Gly Glu Asp Glu Lys
1 5

<210> 181
<211> 9
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Lys Glu Asp Glu Gly Ser Gly Asp Lys

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<400> 182

Asp Val Val Cys Cys Ser Met Ser

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Asp Val Val Cys Pro Met Ser

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Asp Ala Ile Pro Xaa Ser Ile Pro Cys

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<210> 185

<211> 11

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<400> 185

Asp Ala Ile Pro Xaa Ser Ile Pro Lys Gly Tyr

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5

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<211> 11

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 <400> 186

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Pro Asp Glu Val Asp Gly Ile Asp Pro Lys Gly Tyr
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 <223> Xaa can be any naturally occurring amino acid
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 1 5 10

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1 5 10

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5

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Lys Asp Asx Asp Glu Val Asp Gly Ile Asp Pro Lys Gly Tyr

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5

10

<210> 193
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 1 5 10

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Lys Asp Asx Glu Val Asp Gly Ile Asp Pro Lys Gly Tyr
1 5 10

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<400> 196

Lys Asp Tyr Asx Ala Asp Gly Ile Asp Pro Lys Gly Tyr
1 5 10

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<400> 197

Lys Asp Asx Gly Asp Glu Val Asp Gly Ile Asp Gly Pro Lys Gly Tyr
1 5 10 15

<210> 198
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<400> 198

Lys Asp Asx Xaa Gly Asp Glu Val Asp Gly Ile Asp Gly Xaa Pro Lys
1          5          10          15

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Gly Tyr

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<210> 199
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 1 5 10 15

Gly Tyr

<210> 200
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<222> (11)..(11)

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<400> 200

Lys Asp Tyr Asx Ala Asp Gly Ile Asp Pro Lys Gly Tyr
1 5 10

<210> 201

<211> 13

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<400> 201

Lys Asp Asx Glu Val Asp Gly Ile Asp Pro Lys Gly Tyr
1 5 10

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 Lys Asp Ala Ile Pro Xaa Ser Ile Pro Lys Gly Tyr
 1 5 10

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<400> 203

Lys Asp Pro Xaa Gly Asp Glu Val Asp Gly Ile Asp Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 204
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<400> 204

Lys Asp Pro Xaa Gly Ile Glu Thr Asp Ser Gly Val Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 205
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<400> 205

Lys	Asp	Pro	Xaa	Gly	Leu	Val	Glu	Ile	Asp	Asn	Gly	Gly	Xaa	Pro	Lys
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Gly Tyr

<210> 206
<211> 18
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Lys	Asp	Pro	Xaa	Gly	Leu	Glu	His	Asp	Gly	Ile	Asn	Gly	Xaa	Pro	Lys
1				5					10					15	

Gly Tyr

<210> 207
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<222> (14)..(14)

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Lys Asp Pro Xaa Gly Trp Glu His Asp Gly Ile Asn Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

<210> 208

<211> 7

<212> PRT

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<220>

<223> Synthetic peptide substrate

<400> 208

Ile Glu Thr Asp Ser Gly Val
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<210> 209

<211> 9

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<223> X is D form of tetrahydroisoquinoline-3-carboxylic acid

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Ser Glu Val Asn Leu Asp Ala Glu Phe
1 5

<210> 210
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Tyr Val His Asp Ala Pro Val
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Gly Gly Gly Gly
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<210> 212
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Lys Asp Pro Xaa Gly Tyr Val His Asp Ala Pro Val Gly Xaa Pro Lys
1 5 10 15

Gly Tyr

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Lys Asp Pro Xaa Gly Tyr Val His Asp Ala Pro Val Lys Gly Tyr

1 5 10 15

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Lys Asp Pro Tyr Val His Asp Ala Pro Val Gly Lys Pro Lys Gly Tyr
1 5 10 15

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1 5 10 15

Pro Lys Asp Asp Tyr
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Tyr Val His Asp Ala Pro Val

1

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<210> 217

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Tyr Val His Asp Ala Pro Val

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<210> 218

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<400> 218

Lys Asp Asx Tyr Val His Asp Ala Pro Val Pro Lys Gly Tyr

1

5

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<210> 219

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<220>

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<400> 219

Lys Asp Asx Gly Tyr Val His Asp Ala Pro Val Gly Pro Lys Gly Tyr
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Lys Asp Asx Xaa Gly Tyr Val His Asp Ala Pro Val Gly Xaa Pro Lys
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Gly Tyr

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<400> 221

Lys	Asp	Asx	Xaa	Gly	Tyr	Val	His	Asp	Ala	Pro	Val	Gly	Xaa	Pro	Lys
1				5					10					15	

Gly Tyr